



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Tachauer et al.

Art Unit : 1732

Serial No. : 10/763,747

Examiner : Mark Eashoo

Filed : January 23, 2004

Title : TOUCH FASTENER PRODUCTS

**Mail Stop Amendment**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR 1.131

As a co-inventor of the above application, I, Ernesto Tachauer, hereby declare:

That the attached notebook pages evidence that the invention was reduced to practice prior to August 20, 2003.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

**CERTIFICATE OF MAILING BY FIRST CLASS MAIL**

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date of Deposit

July 26, 2006

Signature

Darlene J. Morin

Typed or Printed Name of Person Signing Certificate

Darlene J. Morin

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Attorney's Docket No.: 05918-320001 / VGCP No.  
6090

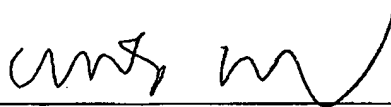
punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Date:

July 19, 2006

Attached Page 71

21368947



Ernesto Tachauer

DATE

SUBJECT

Thermoforming experiment

PROJECT NO.

71

Thermoforming of hook tape

A hook tape was formed via the customary HTH process, in which base thickness was made to be approx. 8 mils. It was made in hook 29; resin was PP SD 242 from Basell.

Tape was thermoformed at [REDACTED] Progressive Model 28 machine with hooks pointing upwards. Oven ambient temperatures of machine's 5 oven operating zones were kept at 590F/590F/590F/415F/240F under the tape, i.e. where hooks were not present. On the top side of the oven a set of temperatures found to be operational was 510F/510F/510F/310F/310F. Surprisingly, these temperatures did not cause melting of the hooks. The heated sheet was then formed via vacuum applied from the bottom (i.e. side where hooks were not present) and cooled. The result was that it was possible to obtain parts in which the heated base conformed to the mold without damaging the hooks. The rate at which parts were formed under these conditions was 21-30 parts/minute.

Parts were then cut, internally (e.g. holes) as well as externally, and stacked.

This trial took place at [REDACTED] on [REDACTED] in the presence of E. Tachauer, [REDACTED] and other people of [REDACTED]

Ernst Tachauer

Box with samples was received later (shipped [REDACTED] via Fedex)

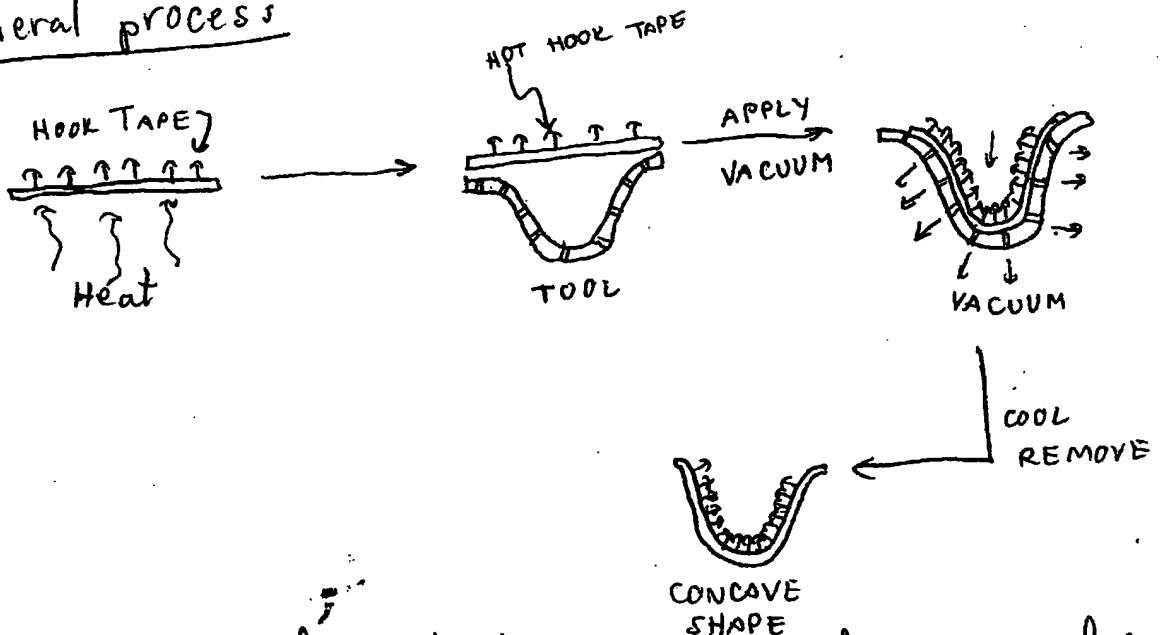
g2783 [REDACTED]  
July 23, 2003



NOTE = TF = thermoforming

Background In a previous disclosure, we have disclosed the value of adding a ~~3~~ degree of freedom to hook design via TF. In TF we alter the base of the hook <sup>tape</sup> using techniques commercially available, for example for making blister packaging

General process



In a similar fashion, convex shapes can be obtained

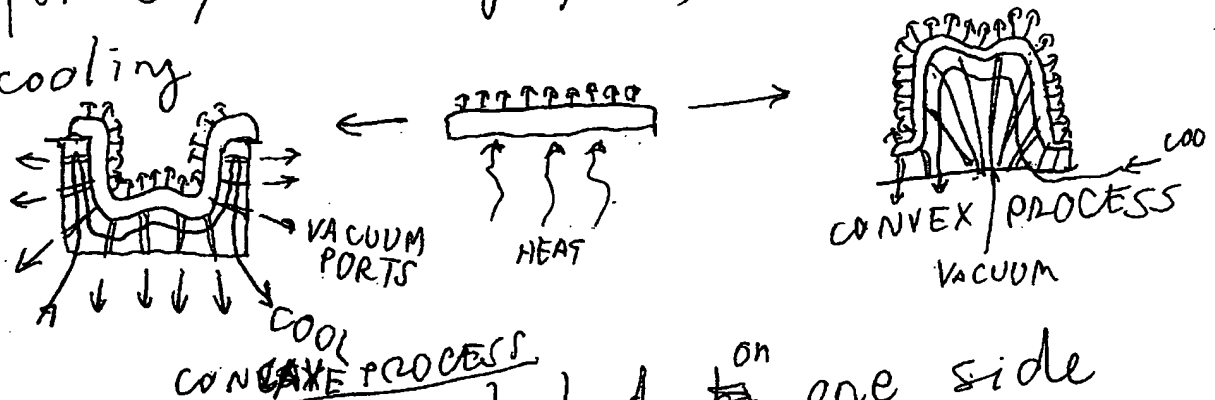
We have been able to prove that the above concept is generally applicable to hook tapes through our testing. We succeeded to permanently deform ~~the~~ PP tape without significantly ~~altering~~ ~~the properties of the~~ melting hooks ( [REDACTED] )

MATERIAL FORMED 8 mil base hook 29 (8 mil spacer)  
made with Washington Penn 20% filled material



(T.F. = thermoforming)

Background: we have indicated previously the value of adding one degree of freedom to hook tape design by independently shaping the base of the hook tape, after the hooks have been formed. This can be achieved by the thermoforming process in which the tape is uniformly heated ~~(the process is well known)~~ at ~~temperatures~~ ~~well known~~ below  $T_m$  (for crystalline polymers) and deforming and cooling



Heating is accomplished ~~by~~ <sup>on</sup> one side to avoid destruction of hooks, vs. customary 2-sided heating for regular sheet in TF.

We have succeeded to thermoform a 3mil Washington Penn hook 29 8mil spacer sheet to a concave ~~sp~~ shape without damage to hooks. ~~Below~~

Some ideas for using TF in hook tape follow: